ISSUE 23: GRAY WOLVES

Changes from the Draft to the Final EIS

Following is a summary of changes made to this section from what was presented in the Draft EIS.

- Alternative 7 of the Draft EIS has been replaced with Alternative 7-Modified (7-M) and the analysis and comparison of alternatives reflects this change.
- New information was added addressing a permanent change to a sheep grazing allotment in the Absaroka-Beartooth Wilderness.
- New information was added about newly established gray wolf packs in the north Absaroka range.
- In the Draft EIS, a forest-wide aggregation of direct and indirect effects of various alternatives was included in the Cumulative Effects section for this issue, because the spatial analysis unit for direct and indirect effects was defined as the individual Travel Planning Area (TPA). For the Final EIS, this forest-wide summary of impacts was moved to the direct and indirect section, even though the spatial analysis units remained the same. It was determined that travel-associated effects were best discussed in terms of direct and indirect effects, and that a forest-wide summary was useful in terms of comparing alternatives for overall impacts, as well as distribution of impacts across the landscape.
- The Cumulative Effects Analysis was expanded based on the "General Description of Other Activities and Programs" report (Christiansen 2006). A summary is provided for the FEIS, with a detailed analysis available in the project file (Schacht 2006).
- Programmatic Direction (e.g. goals, objectives, standards and guidelines) changed slightly and were organized differently for Alternative 7-M, so the evaluation of the effects of programmatic direction changed accordingly between Draft and Final EIS.

Introduction

This section addresses the potential effects the Travel Plan alternatives may have on the non-essential experimental population of gray wolves. More specifically, the issue is whether the gray wolf could be vulnerable to shooting, trapping and vehicle strike mortality due to public motorized access.

Affected Environment

Wolves were reintroduced to the Greater Yellowstone Area in 1995 and were designated a non-essential experimental population under Section 10 of the Endangered Species Act. After reintroduction, gray wolves quickly colonized areas of the Gallatin National Forest adjacent to Yellowstone National Park. The gray wolf historically occupied the Gallatin National Forest, which is within the Greater Yellowstone Gray Wolf Recovery Area. After reintroduction in 1995, wolves in the Greater Yellowstone Gray Wolf Recovery Area increased rapidly, and all recovery criteria were met in 2002 (USDI 2003:1). At the end of 2003, there were an estimated 301 wolves in the

Greater Yellowstone Area (USDI 2004:1). There are approximately seven packs whose territories are partially or entirely within the Gallatin National Forest: Sheep Mountain, Mill Creek, Mission Creek, Lone Bear, Chief Joseph, Buffalo Fork, and Rose Creek II packs (USDI 2004). These packs are located in the Gallatin and Absaroka ranges. Three packs that had territories in the Madison Range in 2003 are no longer present, due to mortality from mange and management removals resulting from livestock depredations on private lands in the Madison Valley (Bangs 2004b). However, it is likely that this habitat will soon be recolonized due to its high suitability and close proximity to source populations in Yellowstone Park. Two new packs, Mocassin Lake and Baker Mountain have established in the north Absaroka range in the last year (J. Trapp pers. comm.). Occasional reports of wolves have also occurred in other areas throughout the Forest and there are probably several undocumented gray wolf packs in remote areas and wilderness.

In the Yellowstone area, wolves feed on elk, deer, moose, bison, and other ungulates, with elk as their primary prey. Wolves have also preyed on livestock (USDI 2003:12-13,17). Wolves follow big game movements and may concentrate on elk winter ranges or elk calving areas (USDI 1993:6-27 to 6-28). Wolves occupy a wide variety of habitats including grasslands, sagebrush steppes, coniferous and mixed forests, and alpine areas. The two main factors limiting gray wolf distribution are prey density and human-caused mortality. In the Greater Yellowstone Area, adequate densities of ungulate prey are present to support a recovered gray wolf population, and human-caused mortality will probably be the most important factor dictating gray wolf population size and distribution (USDI 2000:43, 459, 462, 467). However, wolves are highly productive animals when they have an adequate food supply, and can therefore sustain high mortality rates without experiencing population decline.

Wolves in the Northern Rockies do not appear to avoid areas of high road density as much as wolves in the Great Lakes region. Paved roads with high traffic volumes have served as barriers to gray wolf movement and dispersal (Claar et al. 1999:7.8-7.9), although these are typically highways rather than forest roads. Wolves often travel on lower standard forest roads and snowmobile trails because they provide easy travel routes. However, wolves are much more likely to be in proximity to humans when they use roads. Gray wolf mortality therefore tends to be higher in areas of higher road density (Fritts et al. 2003:301). Despite this trend towards higher mortality in areas of higher road density, recommendations for motorized access route densities within gray wolf habitat were not included in either the Northern Rocky Mountain Wolf Recovery Plan (USDI 1987:36-38) or the Montana Gray Wolf Conservation and Management Plan (Montana Department of Fish, Wildlife and Parks 2003:90).

Several factors influence the potential for gray wolf mortality. The most important is probably the presence of livestock, especially domestic sheep. At the beginning of this travel planning process, there were two active sheep allotments on the Forest. One these was the Ash-Iron Allotment located in the Absaroka Beartooth Wilderness within an area occupied by wolves where depredations had occurred, but no management removal of wolves had taken place. Through negotiation with the permittee and a private third party organization, this allotment has been closed to grazing by domestic sheep. There are 91 active cattle allotments located on the Forest, and grazing of cattle is the primary use of many private lands located in the adjacent intermountain valleys. Gray wolf territories are large and must encompass both winter and summer ungulate ranges. With the exception of District 316, any territory occupied by wolves on the Gallatin National Forest would

include areas where livestock would be encountered (either on public land allotment or on adjacent private lands). Gray wolf depredation on livestock has occurred both on private lands and Forest Service allotments, with resulting management removals of wolves and in some cases entire packs.

Although human-caused mortality of wolves is generally higher in areas with greater open motorized route densities, it may also occur in backcountry areas away from open motorized routes. Several known instances of illegal wolf mortality in such areas have occurred in the past few years, including the killing of several Sentinel Pack wolves in the Madison Range during the 2003 elk/deer season (Bangs 2004a:1).

Collisions with vehicles are a mortality factor for wolves (USDI 2003:12). Most of these occur on high-speed federal, state, or county roads, rather than on Forest Service roads.

Direct and Indirect Effects

Analysis Methodology

The open motorized route density calculations developed for big game summer habitat effects analysis were also used to analyze impacts on wolves. Elk and deer hunting districts were the analysis area (see, Issue 2: Big Game), and were appropriate because they are large areas that encompass a variety of habitats available for use by wolves throughout the annual cycle. The rationale for using open motorized route density is that in several studies, wolf mortality was tied to road density. Although the effects of motorized trails were not included in these studies, it is reasonable to assume that they may have similar effects as roads because they are often used by people carrying firearms, especially during the hunting season.

In general the analysis revealed that the effects of unregulated travel management, in particular OHV use, as described in Alternative 1 would represent the most threat to expanding gray wolf populations. Alternatives 2 through 7-M would generally have reduced potential for affects from all proposed changes. The gray wolf population and number of wolf packs will likely expand and persist regardless of the Alternative(s) or measures selected for travel management.

Alternative 1

Summer motorized travel off designated routes would be unrestricted under this alternative. Open motorized route densities would be highest (>1.0 mi/mi²) in Hunting Districts 301, 312, 315, 361, and 393, and therefore the potential for gray wolf mortality would be highest in these areas. This is due to high open road densities in the South Plateau, Hebgen Lake Basin, Lionhead, Gallatin Roaded, Hyalite, Bear Canyon, and South Shields Travel Planning Areas (TPAs) that historically had extensive road systems constructed for timber harvest, along with roadless areas in the West Bridgers South and Ibex TPAs that contain an abundance of motorized trails. None of these districts currently support wolf pack territories. Currently, the existing gray wolf packs are generally in districts with lower open motorized route densities, including 310, 311, 313, 314, 317, 362 and 560. These districts contain large blocks of Wilderness or roadless areas with lower open motorized routes densities, and are located in the Absaroka-Beartooth Wilderness, Yankee Jim Canyon, Mill Creek, Sawtooth, Mission, Lee Metcalf Wilderness-Monument and Lee Metcalf Wilderness-Hilgard TPAs. A possible exception would be District 310, which has slightly higher

open motorized route densities than other districts known to contain wolf packs, and where three known illegal human-caused mortalities occurred during 2003 (USDI 2004).

Alternative 2 through 7-M

The potential for gray wolf mortality would be reduced from that under Alternative 1, because no summer motorized travel off designated routes would be allowed. Otherwise, open motorized route densities would be nearly the same. As in Alternative 1, Districts 301, 312, 315, 361 and 393 would contain the largest amount of open motorized route densities, and densities in these units would increase slightly across all alternatives. However, most districts currently containing wolf packs would experience decreases in open motorized route densities under this alternative, which would reduce the potential for gray wolf mortality. The exceptions would be District 310, where open motorized route density would stay the same, and District 317 that would have a small increase in open motorized route density.

Table 3.23. 1 Summer motorized travel density (mi/sq mi) of open motorized routes in elk/deer Hunting Districts by alternative. Data includes only Forest Service motorized roads and trails.

Hunting	Current Wolf	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
District	Presence?	Density						
301	No	1.8	1.8	2.0	2.0	1.9	1.8	2.0
310	Yes	0.8	0.8	0.8	0.7	0.7	0.4	0.7
311	Yes	0.2	0.2	0.2	0.1	0.1	0.1	0.1
312	No	1.3	1.3	1.4	1.1	1.0	1.0	1.1
313	Yes	0.4	0.4	0.3	0.3	0.3	0.3	0.3
314	Yes	0.7	0.7	0.6	0.5	0.4	0.4	0.5
315	No	1.6	1.6	1.9	1.7	1.5	1.3	1.7
316	No	0.1	0.1	0.1	0.1	0.1	0.1	0.1
317	Yes	0.5	0.5	0.6	0.5	0.5	0.5	0.5
360	No	0.3	0.4	0.5	0.4	0.4	0.2	0.4
361	No	1.9	1.9	2.3	2.3	2.2	2.2	2.3
362	Yes	0.6	0.6	0.4	0.4	0.4	0.2	0.4
393	No	1.2	1.2	1.4	1.1	1.1	1.1	1.1
560	No	0.4	0.4	0.4	0.3	0.3	0.2	0.3
580	No	0.3	0.3	0.2	0.2	0.2	0.1	0.2
TOTAL		0.7	0.7	0.8	0.7	0.7	0.6	0.7

Table 3.23. 2 Summer motorized travel density of open motorized routes (mi/sq mi) in elk/deer Hunting Districts by alternative. Data includes all motorized roads and trails (Forest Service, state, county, private).

Hunting	Current Wolf	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
District	Presence?	Density						
301	No	2.1	2.1	2.2	2.2	2.1	2.0	2.1
310	Yes	0.8	0.8	0.8	0.8	0.7	0.4	0.7
311	Yes	0.2	0.2	0.2	0.1	0.1	0.1	0.2
312	No	1.8	1.8	1.9	1.7	1.6	1.5	1.8
313	Yes	0.5	0.5	0.5	0.5	0.5	0.5	0.5
314	Yes	1.4	1.4	1.3	1.2	1.2	1.1	1.1
315	No	2.1	2.1	2.5	2.2	2.0	1.8	1.9
316	No	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Hunting	Current Wolf	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
District	Presence?	Density						
317	Yes	0.6	0.6	0.7	0.6	0.6	0.6	0.6
360	No	2.5	2.5	2.6	2.6	2.6	2.4	2.6
361	No	2.0	2.0	2.4	2.4	2.4	2.3	2.3
362	Yes	0.6	0.6	0.5	0.5	0.5	0.3	0.5
393	No	2.7	2.7	2.9	2.7	2.7	2.6	2.8
560	No	0.4	0.4	0.4	0.3	0.3	0.3	0.4
580	No	0.6	0.6	0.6	0.6	0.6	0.5	0.6
TOTAL		1.1	1.1	1.1	1.1	1.0	0.9	1.0

Cumulative Effects

Net Effects of Past and Present Programs and Activities

Past and present human uses and actions have contributed cumulative effects to gray wolves primarily in the form of habitat alterations and associated human development, on both public and private lands. Human-induced habitat modifications, both temporary and permanent, alter the wolves natural habitat in ways that can reduce security and thermal cover, affect prey distribution, improve access for other predators and competitors, or pose barriers to movement. Human use in gray wolf habitat can cause wolf mortality through trapping or vehicle collisions. Disturbance from human activities in gray wolf habitat can affect wolf physiology, behavior, and habitat use patterns, which can deplete critical energy reserves, and/or displace gray wolves from otherwise suitable habitat. Excessive energy loss can affect the overall fitness of individual gray wolves. Long-term or permanent displacement effectively reduces the amount of suitable habitat available for use by gray wolves.

Projected Combined Effects of Reasonably Foreseeable Programs and Activities

Projected effects of reasonably foreseeable programs and activities have potential for both positive and negative cumulative effects to gray wolves and their habitat. Generally speaking, traditional land management practices are trending toward more ecologically sensitive programs. Unmanaged recreation, invasive species, unnatural fuel buildup and loss of open space are four major ecological threats recognized by public land management entities. Accordingly, management practices are being redesigned to reduce ecological impacts while still allowing for the maximum spectrum of land uses within the capability of resources. On the other hand, private development is occurring at an exponential rate. Major developments (cities, highways and agricultural areas) can influence movement capability and thus affect wolf dispersal patterns and distribution.

Cumulative Effects of Past, Present and Reasonably Foreseeable Programs and Activities with the Travel Plan Alternatives

Alternative 1

Cumulative effects under Alternative 1 are expected to have greater impacts than other alternatives because Alternative 1 would retain overall higher travel route densities, and also would maintain the option for off-route travel by OHVs. Since this scenario would allow for greater dispersal of large numbers of people across the entire forest, direct and indirect effects of this alternative, combined

with similar impacts from unrelated programs and activities would have greater overall cumulative effects on gray wolves and their habitat than Alternatives 2 through 7-M.

Alternatives 2 through 7-M

Cumulative effects under Alternatives 2 through 7-M would differ slightly relative to the variations in direct and indirect effects within the range of alternatives. However the basic change in travel management philosophy from all routes and areas open for motorized use unless designated closed, to a system where all summer motorized traffic is restricted to designated routes, would result in a notable reduction of direct and indirect effects associated with travel management, and a corresponding reduction in contribution to overall cumulative effects.

Effects of Proposed Goals, Objectives, Standards and Guidelines

Alternative 1 (No Action)

Under Alternative 1 (no action), the goals, objectives, standards and guidelines related to travel management would remain as they are currently stated in the existing Forest Plan. Much of the programmatic direction contained within the existing Forest Plan is outdated and less useful than perceived when the Plan was completed in 1987. Existing direction would result in maintaining the status quo, which would provide fewer protective measures than proposed for Alternatives 2 through 7-M.

Alternatives 2-6

Under Alternatives 2-6, proposed goals, objectives, standards and guidelines, are based on more current science, and tier to current direction that is separate from the Forest Plan. Proposed programmatic direction, if implemented, would generally serve to improve gray wolf habitat quality by reducing human disturbance factors in important habitats and during critical periods. GOAL A basically states that the overarching focus of the Forest Travel Plan is to provide a system that promotes public enjoyment of the Forest's resources, including wildlife. People will generally only support conserving a resource that they perceive provides some value to them. If the public were not allowed broad access to the natural resources available on NFS lands, there would be little incentive to support management programs focused on conservation of those resources.

OBJ A-6 provides designations for backcountry airstrips located throughout the Forest. This objective applies only to Alternative 3. Potential backcountry airstrip sites are identified in Table I-3. Allowing aircraft landing in the backcountry could add considerable disturbance in gray wolf habitat. The presence of backcountry airstrips (including all potential locations listed in Table I-3) could lead to an increase in recreational aircraft use, including low-level sight seeing flights over and around high elevation habitats important to gray wolves.

Restricting wheeled motorized travel to designated routes (STANDARD A-6) would significantly reduce the potential for motorized disturbance in gray wolf habitat, reduce habitat alteration resulting from the development of user-created routes, lower human disturbance influence on distribution patterns of gray wolf prey species, help to control the spread of noxious weeds and help to control the proliferation of human pollution (garbage) on the landscape.

GOAL B recognizes the Forest's desire to provide public access to all Gallatin National Forest Land. Improving or increasing public access to NFS lands that currently have poor or no public access could have negative impacts to gray wolves by increasing human presence and associated disturbance factors in areas that currently serve as important wolf security habitat.

GOAL C ties travel management programmatic direction with overall Forest Plan goals for natural resource management and protection (including wildlife). This goal statement provides the basis for restricting public travel when and where necessary in order to effectively manage within constraints of resource capabilities. This mindset would benefit gray wolves and other wildlife by allowing for restrictions on public uses in favor of meeting habitat needs for wildlife. This goal statement also contains objectives (OBJ. C-1 and C-2) that provide for road and trail rehabilitation to physically close and revegetate existing non-system road and trail facilities. Since non-system roads and trails are not always effectively closed, some motorized use occurs on these facilities, allowing motorized disturbance to persist. Effectively closing and rehabilitating these features would benefit gray wolves by reducing motorized disturbance levels and restoring native vegetation.

Providing for habitat connectivity in order to promote wildlife movement and genetic interaction (GOAL E) would benefit gray wolf populations by acknowledging the importance of dispersal routes used by animals. Gray wolves are naturally wide-ranging creatures and dispersal is an important mechanism for maintaining genetic interaction among and between pack populations. Fragmentation of gray wolf populations can result in lowered genetic fitness and increased vulnerability to local extirpations.

The gray wolf is currently designated as a non-essential experimental population under Section 10 of the Endangered Species Act on the Gallatin Forest. Managing human use of the Forest road and trail system to maintain gray wolves and their habitat (GOAL F) is intended to benefit all wildlife species. Gray wolves are similar to grizzly bears and lynx in their habitat use patterns and sensitivity to human disturbance. Therefore, OBJ. F-1, OBJ. F-2, and STANDARDS F-1 and F-2 would benefit gray wolves by limiting motorized access route densities, minimizing human food sources and limiting snow compaction.

Gray wolves are habitat generalists and are opportunistic in their foraging patterns. As such, vegetative diversity provides a wide range of habitat options for gray wolves. Maintaining healthy vegetative conditions in key habitats such as willow, riparian, whitebark pine and old growth (GOAL G, OBJ. G-1) would provide for continued habitat diversity important to sustaining healthy gray wolf populations.

Providing high quality security habitat in areas important to wildlife reproduction (GOAL H, OBJ. H-1) would benefit gray wolves by helping to protect gray wolf reproductive habitat (pack denning areas) from human intrusions, and would also serve to promote healthy gray wolf prey populations by protecting big game calving and fawning areas.

Providing for habitat security on important ungulate winter range (GOAL I, OBJ I-1) would benefit gray wolves by reducing the potential for human disturbance during an energy-critical time and thereby promoting healthy prey populations.

Effective closure of project roads (STANDARD L-1) would benefit gray wolves by reducing overall motorized access route densities and decreasing or eliminating associated motorized disturbance

STANDARD M-7 would essentially prohibit creation of parallel routes on opposite sides of stream courses within the riparian zone. Riparian vegetation provides important habitat for a variety of wildlife, including potential gray wolf prey species. Also, stream courses are often used by wildlife gray wolves as travel routes. Therefore, protecting stream courses and associated riparian habitat would benefit gray wolves. STANDARD M-8 would effectively set a ceiling on public motorized access route density, which would also benefit gray wolves. GUIDELINES M-9 and M-10 would influence the location, availability for public access and eventual disposition of temporary project roads and other facilities created for administrative purposes. These guidelines would effectively limit use and associated disturbance levels, which would be beneficial for gray wolves.

Preserving the natural integrity of designated Wilderness Areas (GOAL N and associated standards and guidelines) would benefit gray wolves by preserving the characteristics of remote, rugged, and relatively inaccessible areas that appear to be disproportionately selected by gray wolves across the landscape.

Alternative 7-M

Under Alternative 7-M, programmatic direction was organized slightly different than for Alternatives 2-6. In some cases, goals, objectives, standards and guidelines actually changed for Alternative 7-M, whereas in other cases, only the identification system changed (e.g. alpha-numeric identifiers for goals, objectives, etc.) In the latter cases, the effects analysis for Alternatives 2-6 applies for Alternative 7-M as well.

GOAL A: Same as Alt. 2-6.

OBJ. A-6 is essentially the same as in Alt. 2-6, with the exception that there are no potential site-specific locations for backcountry airstrips identified, and instead there are geographic areas listed in which backcountry airstrips for public recreational use would be prohibited. Effects to gray wolves from the possible future creation of backcountry airstrips would be the same as discussed for Alt. 2-6. In addition, Alternative 7-M contains a standard (A-7) that expressly disallows landing and/or takeoff of recreational aircraft, except at designated and authorized sites, of which there currently are none on the Gallatin Forest. Any future proposals for backcountry airstrips would have to go through a separate NEPA analysis.

STANDARD A-8 is the same as STANDARD A-6 for Alt. 2-6.

GOAL B: Same as Alt. 2-6.

GOAL D, OBJ. D-1 and D-2 are the same as GOAL C, OBJ. C-1 and C-2 for Alt. 2-6.

STANDARDS D-5 and D-6 are essentially the same as STANDARDS L-1 and M-8 for Alt. 2-6.

GUIDELINE D-7 addresses new roads constructed for project activity. This guideline in Alt. 7-M would have similar effects as those described above for GUIDELINES M-9 and M-10 in Alt. 2-6.

GOAL F and **OBJ. F-1** contain essentially the same direction as GOAL E in Alt. 2-6.

GOAL G is similar to GOAL F in Alt. 2-6, but the wording is changed slightly. Whereas the statement for Alt. 2-6 specifies "Threatened, Endangered and Sensitive Wildlife Species" the statement in Alt. 7-M changes "Sensitive" to "Species of Special Management Designation". This change was made to reflect proposed terminology changes in the Federal Planning Regulations, where the term "sensitive species" is replaced with "species of concern" and "species of interest". The term "species of special management designation" was used to reflect this possible change, as well as to include other categories such as "management indicator species". Effects to wolvers would be essentially the same as described above for GOAL F in Alt. 2-6. Standards specific to grizzly bear and lynx (F-1 and F-2 in Alt. 2-6) were dropped from the programmatic direction in Alt. 7-M. However, it should be noted that direction reflected in STANDARDS F-1 and F-2 (Alt. 2-6) is currently contained in separate direction documents for grizzly bear and lynx. GUIDELINE G-2 is added in Alt. 7-M to protect important habitat components known to be occupied by species of special management designation, which would include gray wolves.

GOAL H along with OBJ. H-1 and GUIDELINES H-2 and H-3, are similar to GOAL G and OBJ. G-1 in Alt. 2-6. However, the direction in Alt. 7-M is a bit more detailed and would likely provide better protection for key habitats than the language contained in Alt. 2-6.

GOAL I plus **GUIDELINES I-1** and **I-2** are essentially the same as GOALS H and I, plus OBJS. H-1 and I-1 in Alt. 2-6, but worded slightly differently, and replace objectives with guidelines. Effects to gray wolves would be similar to that described above for Alt. 2-6, but the wording in Alt. 7-M is more accurate and should be better for effectively managing travel facilities and use to the benefit of gray wolves.

GOAL J is the same as GOAL N in Alt. 2-6.

Consistency with Laws, Regulations, Policy, and Federal, Regional, State and Local Land Use Plans (including the Forest Plan)

All alternatives would be consistent with applicable laws, regulations and policies, including the Gallatin Forest Plan, the Montana Gray Wolf Conservation and Management Plan and the Northern Rocky Mountain Wolf Recovery Plan. The Forest Plan contains no standards or objectives specific to gray wolves. The Forest Service has a responsibility under the National Forest Management Act (36 CFR 219.19) to provide habitat for gray wolves, which are a native species. When gray wolves were listed as a non-essential, experimental population under the 10(j) rule of the Endangered Species Act, they were to be managed on National Forest System lands the same as species proposed for federal listing. The Endangered Species Act (Section 7(a)(4)) requires the Forest

Service to confer with the US Fish and Wildlife Service on any action that would jeopardize the continued existence of gray wolves. The effects of the Gallatin National Forest Travel Planning and the Preferred Alternative determined that there would be no affect to gray wolves, or their habitat, therefore they were not analyzed in detail in the Biological Assessment prepared for the project.